

**IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE**

Patent Application

Inventors: Barbara Jean Lagno et al.

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Examiner: Pierre Louis Desir

Docket No.: 630-041US

Title: Level of Service in a Wireless Telecommunications Network

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

REPLACEMENT APPEAL BRIEF UNDER 37 CFR 41.67

Pursuant to 37 CFR 41.67, this replacement brief is filed in support of the appeal in this application and in response to the Notice of Non-Compliant Appeal Brief mailed 09/21/2007.

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REAL PARTY IN INTEREST

The real party of interest in this application is the assignee of this application: Avaya Technology Corp., a Delaware corporation.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1-39 stand rejected and are being appealed.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The claimed subject matter relates to improving the quality of wireless telecommunications, in general, and, in particular, to techniques that make it easier to find a location where a wireless terminal (*e.g.*, cell phone, WiFi card, *etc.*) will be able to get good reception. (Specification paragraphs [0002] through [0005])

Anyone who has ever used a radio knows that bad reception is often improved by moving to another location. Unfortunately, it is rarely apparent where to go and so when people look for better reception, they usually move about haphazardly until they either find good reception or they give up trying.

When the claimed subject matter learns of a specific location where the reception is good, it simply transmits to users in its purview the location so that they can go there and don't have to hunt for a location with good reception. (Specification paragraphs [0010] and [0011])

The claimed subject matter comprises five (5) independent claims. Each shall be presented, explained, and mapped to the specification and drawings.

Claim 1 recites:

1. A method comprising:

determining that a first wireless terminal at a location can communicate with a second wireless terminal with a level of service; and

transmitting to a third wireless terminal an indication that said third wireless terminal should be able to communicate with said second wireless terminal with said level of service at said location.

Claim 1 is taught in the specification at paragraphs [0036] to [0045] and in Figure 5. A concise explanation of the subject matter underlying claim 1 is that one or more unrecited "things:"

- determines that one wireless terminal (*e.g.*, a WiFi Access Point, a Bluetooth device, a cell phone tower, *etc.*) at a specific location can communicate with a second wireless terminal (*e.g.*, a WiFi-enabled computer or PDA, another Bluetooth device, a cell phone, *etc.*) with a given level of reception, and
- transmits to a third wireless terminal (the user-of-interest's device) the location where it too can communicate with the second terminal with the level of reception.

Independent Claim 9 recites:

9. A method comprising:

receiving from a first wireless terminal a measurement of a characteristic of an electromagnetic signal radiated by a source, wherein said measurement is associated with a location; and

transmitting to a second wireless terminal an indication that said second wireless terminal should be able to receive at said location said electromagnetic signal with said measurement exceeding a threshold.

Claim 9 is taught in the specification at paragraphs [0046] to [0056] and in Figure 6. A concise explanation of the subject matter underlying claim 9 is that one or more unrecited “things:”

- receives an indication that an electromagnetic signal has a given reception quality at a location, and
- informs a wireless terminal that it should be able to receive the electromagnetic signal with that reception quality at that location.

Independent claim 18 recites:

18. A method comprising:

receiving information comprising a location;

determining that a measurement of a characteristic of a first electromagnetic signal transmitted by a first wireless terminal exceeds a threshold; and

transmitting to a second wireless terminal an indication that said second terminal should be able to communicate at said location with an access point such that said access point receives a second electromagnetic signal transmitted by said second wireless terminal with said measurement exceeding said threshold.

Claim 18 is taught in the specification at paragraphs [0057] to [0066] and in Figure 7. A concise explanation of the subject matter underlying claim 18 is that one or more unrecited “things:”

- receives an indication of a location,
- determines that there is good reception by a first wireless terminal, and
- informs a second wireless terminal that it should get good reception from an access point at the location.

Independent claim 26 recites:

26. An apparatus comprising:
a processor for determining that a first wireless terminal at a location can communicate with a second wireless terminal with a level of service; and
a transmitter for transmitting to a third wireless terminal an indication that said third wireless terminal should be able to communicate with said second wireless terminal with said level of service at said location.

Claim 26 is taught in the specification at paragraphs [0030] to [0045] and in Figures 4 and 5.

Claim 26 is an apparatus version of claim 1, and a concise explanation of the subject matter underlying claim 26 is that:

- a processor determines that one wireless terminal (*e.g.*, a WiFi Access Point, a Bluetooth device, a cell phone tower, *etc.*) at a specific location can communicate with a second wireless terminal (*e.g.*, a WiFi-enabled computer or PDA, another Bluetooth device, a cell phone, *etc.*) with a given level of reception, and
- a transmitter transmits to a third wireless terminal (the user-of-interest's device) the location where it too can communicate with the second terminal with the level of reception.

Independent claim 32 recites:

32. An apparatus comprising:
a receiver for receiving from a first wireless terminal a measurement of a characteristic of an electromagnetic signal radiated by a source, wherein said measurement is associated with a location; and
a transmitter for transmitting to a second wireless terminal an indication that said second wireless terminal should be able to receive at said location said electromagnetic signal with said measurement exceeding a threshold.

Claim 32 is taught in the specification at paragraphs [0030] to [0035], [0046] to [0056] and in Figures 4 and 6.

Claim 32 is an apparatus version of claim 9, and a concise explanation of the subject matter underlying claim 32 is that:

- a receiver receives an indication that an electromagnetic signal has a given reception quality at a location, and

— a transmitter informs a wireless terminal that it should be able to receive the electromagnetic signal with that reception quality at that location.

GROUND OF OBJECTION AND REJECTION TO BE REVIEWED ON APPEAL

Ground 1: 35 U.S.C. 103 Rejection of Claims 1-2, 6, 8-12, 16, 18-21, 25-27, 30-35, and 39

Claims 1-2, 6, 8-12, 16, 18-21, 25-27, 30-35, and 39 were rejected under 35 U.S.C. 103(a) as being unpatentable over D.B. Crosbie, U.S. Patent Application Publication 2002/0035699 A1 in view of the Background of the Invention section of the present application as contained in U.S. Patent Application Publication 2005/0070303.

Ground 2: 35 U.S.C. 103 Rejection of Claims 3-5, 7, 13-15, 17, 22-24, 28-29, and 36-38

Claims 3-5, 7, 13-15, 17, 22-24, 28-29, and 36-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over D.B. Crosbie, U.S. Patent Application Publication 2002/0035699 in view of the Applicants' Admitted Prior Art in further view of G.G. Reddy et al., U.S. Patent Application Publication 2004/0147254 A1.

ARGUMENTS**Ground 1: 35 U.S.C. 103 Rejection of Claims 1-2, 6, 8-12, 16, 18-21, 25-27, 30-35, and 39**

Claims 1-2, 6, 8-12, 16, 18-21, 25-27, 30-35, and 39 were rejected under 35 U.S.C. 103(a) as being unpatentable over D.B. Crosbie, U.S. Patent Application Publication 2002/0035699 A1 (hereinafter "Crosbie") in view of the Background of the Invention section of the present application as contained in U.S. Patent Application Publication 2005/0070303 (hereinafter "Applicants' Admitted Prior Art"). The applicants respectfully traverse.

Claim 1 recites:

1. A method comprising:
determining that a first wireless terminal at a location can communicate with a second wireless terminal with a level of service; and
transmitting to a third wireless terminal an indication that said third wireless terminal should be able to communicate with said second wireless terminal with said level of service at said location.
(emphasis supplied)

Nowhere does Crosbie or the Applicants' Admitted Prior Art teach or suggest, alone or in combination, transmitting to a third wireless terminal an indication that it should be able to communicate with a second wireless terminal with a specific level of service at a specific location.

In substantiating the rejection the Office has mischaracterized the Applicants' Admitted Prior art.

The Office action states:

Although Crosbie discloses a method wherein a wireless local area network directs a device to establish a connection (inherent transmission of an indication), Crosbie does not specifically disclose a method comprising transmitting to a third wireless terminal an indication that said third wireless terminal should be able to communication with said second wireless terminal with said level of service at said location.

Office action dated 2/23/2006, Page 6, first full paragraph.

The applicants agree. The Office action continues:

However, [Applicants' Admitted Prior Art] discloses **a method comprising a third wireless terminal being informed (inherent transmission of an indication) that it should be able to communicate with a second wireless network** (*i.e.*, WLAN hotspot or access points)(see page 1, paragraphs 9-11 [Of the published application]).

Office action dated 2/23/2006, Page 6, second full paragraph.
(emphasis supplied)

The applicants respectfully disagree. The Applicants' Admitted Prior Art neither teaches nor suggests what is recited in claim 1.

In fact, a careful reading of the Applicants' Admitted Prior Art fails to reveal any language that could reasonably be interpreted to substantiate the rejection. The Applicants' Admitted Prior Art recites:

[0009] FIG. 2 depicts a second schematic diagram of local area network 100 in the prior art. Wireless terminal 201-1 is situated within area 102 and, as a result, is able to communicate with wireless terminal 101-4 with the particular level of service associated with area 102. Wireless terminal 201-2, however, is situated outside of area 102 and, as a result, is not able to communicate with wireless terminal 101-4 with the particular level of service associated with area 102. Moreover, if wireless terminal 201-2 could move into the region defined by area 102, it could communicate with wireless terminal 101-4 with the particular level of service associated with area 102.

[0010] Different techniques exist for the purpose of bringing wireless terminals into the proximity of wireless terminal 101-4. In the first technique in the prior art, wireless terminal 101-4 is prominently identified so that the user of wireless terminal 201-2 can move closer to wireless terminal 101-4 and possibly communicate with an improved level of service. The advantage of this technique is that it is simple, requiring as little as a sign that identifies wireless terminal 101-4's location. The disadvantage of this technique is that a sign identifying wireless terminal 101-4's location often cannot be displayed in plain view to all users. An example of this is in a crowded airport terminal, in which there are many sights and sounds competing for the attention of the user.

[0011] In the second technique in the prior art, wireless terminal 201-2's user can be informed that i) the level of service is inadequate at his or her present location and that ii) wireless terminal 201-2 should be moved a few feet elsewhere. This task is repeated until the user finds a location with an adequate level of service. The advantage of this technique is that the user is given updates on each new location. The disadvantage of this technique is that the user could be bouncing back and forth from one location to another without converging quickly enough, if at all, on a satisfactory location.

For this reason alone, the applicants respectfully submit that the rejection of claim 1 cannot be sustained.

Furthermore, the applicants respectfully assert that Crosbie and the Applicants'

Admitted Prior Art cannot be combined as the Office suggest. The field of endeavor of Crosbie is about load balancing in wireless networks and has nothing whatsoever to do with the quality of radio reception. Furthermore, the Office combines Crosbie and the Applicants' Admitted Prior Art as a *fait accompli* without any reasoning to support it.

For this reason also, the applicants respectfully submit that the rejection of claim 1 is traversed.

Because claims 2-8 depend on claim 1, the applicants respectfully submit that the rejection of them is also traversed.

Independent Claim 9 recites:

9. A method comprising:

receiving from a first wireless terminal a measurement of a characteristic of an electromagnetic signal radiated by a source, wherein said measurement is associated with a location; and

transmitting to a second wireless terminal an indication that said second wireless terminal should be able to receive at said location said electromagnetic signal with said measurement exceeding a threshold.

(emphasis supplied)

Nowhere do Crosbie or the Applicants' Admitted Prior Art teach or suggest, alone or in combination, what claim 9 recites — namely informing a wireless terminal that it should be able to receive the electromagnetic signal with that reception quality at a location. For this reason, the applicants respectfully submit that the rejection is traversed.

Because claims 10-17 depend on claim 9, the applicants respectfully submit that the rejection of them is also traversed.

Independent claim 18 recites:

18. A method comprising:
receiving information comprising a location;
determining that a measurement of a characteristic of a first electromagnetic signal transmitted by a first wireless terminal exceeds a threshold; and
transmitting to a second wireless terminal an indication that said second terminal should be able to communicate at said location with an access point such that said access point receives a second electromagnetic signal transmitted by said second wireless terminal with said measurement exceeding said threshold.
(emphasis supplied)

Nowhere do Crosbie or the Applicants' Admitted Prior Art teach or suggest, alone or in combination, what claim 18 recites — namely informing a wireless terminal that it should be able to receive the electromagnetic signal with that reception quality at a location. For this reason, the applicants respectfully submit that the rejection is traversed.

Because claims 19-25 depend on claim 18, the applicants respectfully submit that the rejection of them is also traversed.

Independent claim 26 recites:

26. An apparatus comprising:
a processor for determining that a first wireless terminal at a location can communicate with a second wireless terminal with a level of service; and
a transmitter for transmitting to a third wireless terminal an indication that said third wireless terminal should be able to communicate with said second wireless terminal with said level of service at said location.
(emphasis supplied)

Nowhere do Crosbie or the Applicants' Admitted Prior Art teach or suggest, alone or in combination, what claim 26 recites — namely a transmitter for informing a wireless terminal that it should be able to receive the electromagnetic signal with that reception quality at a location. For this reason, the applicants respectfully submit that the rejection is traversed.

Because claims 27-31 depend on claim 26, the applicants respectfully submit that the rejection of them is also traversed.

Independent claim 32 recites:

32. An apparatus comprising:

a receiver for receiving from a first wireless terminal a measurement of a characteristic of an electromagnetic signal radiated by a source, wherein said measurement is associated with a location; and

a transmitter for transmitting to a second wireless terminal an indication that said second wireless terminal should be able to receive at said location said electromagnetic signal with said measurement exceeding a threshold.

(emphasis supplied)

Nowhere do Crosbie or the Applicants' Admitted Prior Art teach or suggest, alone or in combination, what claim 32 recites — namely a transmitter for informing a wireless terminal that it should be able to receive the electromagnetic signal with that reception quality at a location. For this reason, the applicants respectfully submit that the rejection is traversed.

Because claims 33-38 depend on claim 32, the applicants respectfully submit that the rejection of them is also traversed.

Ground 2: 35 U.S.C. 103 Rejection of Claims 3-5, 7, 13-15, 17, 22-24, 28-29, and 36-38

Claims 3-5, 7, 13-15, 17, 22-24, 28-29, and 36-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over D.B. Crosbie, U.S. Patent Application Publication 2002/0035699 in view of the Applicants' Admitted Prior Art in further view of G.G. Reddy et al., U.S. Patent Application Publication 2004/0147254 A1.

Because claims 3-5, 7, 13-15, 17, 22-24, 28-29, and 36-38 each depend on one of independent claims 1, 9, 18, 26, and 32, and because Reddy fails to cure the deficiencies of the independent claims, the applicants respectfully submit that the rejection of them is also traversed.

CONCLUSION

The applicants have demonstrated that the logic underlying the Office's rejection is untenable, and, therefore, that the rejection is not sustainable. For this reason, the applicants respectfully request the Board of Appeals to reverse the decision of the Examiner as provided for in 37 C.F.R. 41.50(a).

Respectfully,
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Claims Appendix

- 1.** (original) A method comprising:
determining that a first wireless terminal at a location can communicate with a second wireless terminal with a level of service; and
transmitting to a third wireless terminal an indication that said third wireless terminal should be able to communicate with said second wireless terminal with said level of service at said location.
- 2.** (original) The method of claim 1 wherein said first wireless terminal and said third wireless terminal are different.
- 3.** (original) The method of claim 1 further comprising displaying said indication.
- 4.** (original) The method of claim 3 wherein displaying said indication occurs in the form of a graphical map, wherein said graphical map portrays said location.
- 5.** (original) The method of claim 3 wherein said third wireless terminal performs displaying said indication.
- 6.** (original) The method of claim 1 wherein said level of service is in terms of at least one of (i) throughput, (ii) error rate, and (iii) latency.
- 7.** (previously presented) The method of claim 1 wherein said location is determined with Global Positioning System measurements.
- 8.** (original) The method of claim 1 wherein said second wireless terminal is an IEEE 802.11 access point.

-
- 9.** (previously presented) A method comprising:
receiving from a first wireless terminal a measurement of a characteristic of an electromagnetic signal radiated by a source, wherein said measurement is associated with a location; and
transmitting to a second wireless terminal an indication that said second wireless terminal should be able to receive at said location said electromagnetic signal with said measurement exceeding a threshold.

10. (original) The method of claim 9 wherein said first wireless terminal and said second wireless terminal are different.

11. (original) The method of claim 9 wherein said electromagnetic signal conveys a data block.

12. (original) The method of claim 11 wherein said source is an IEEE 802.11 access point and said data block constitutes a beacon frame.

13. (original) The method of claim 9 wherein said indication constitutes a set of displayable information, wherein said set of displayable information comprises said location.

14. (original) The method of claim 13 further comprising displaying at said second wireless terminal said set of displayable information.

15. (original) The method of claim 13 wherein said set of displayable information is in the form of a graphical map, wherein the size of said set of displayable information is dependent on said second wireless terminal.

16. (original) The method of claim 9 wherein said characteristic is one of (i) throughput, (ii) error rate, (iii) latency, and (iv) signal strength.

17. (previously presented) The method of claim 9 wherein said location is determined with Global Positioning System measurements.

18. (previously presented) A method comprising:
receiving information comprising a location;
determining that a measurement of a characteristic of a first electromagnetic signal transmitted by a first wireless terminal exceeds a threshold; and
transmitting to a second wireless terminal an indication that said second terminal should be able to communicate at said location with an access point such that said access point receives a second electromagnetic signal transmitted by said second wireless terminal with said measurement exceeding said threshold.

19. (original) The method of claim 18 wherein said first wireless terminal and said second wireless terminal are different.

20. (original) The method of claim 18 wherein said first electromagnetic signal conveys a data block.

21. (original) The method of claim 18 wherein said access point performs measuring said characteristic.

22. (original) The method of claim 18 wherein said indication constitutes a set of displayable information, wherein said set of displayable information comprises said location.

23. (original) The method of claim 22 further comprising displaying at said second wireless terminal said set of displayable information.

24. (original) The method of claim 22 wherein said displayable information is in the form of a graphical map, wherein the size of said set of displayable information is dependent on said second wireless terminal.

25. (original) The method of claim 18 wherein said characteristic is one of (i) throughput, (ii) error rate, (iii) latency, and (iv) signal strength.

26. (original) An apparatus comprising:
a processor for determining that a first wireless terminal at a location can communicate with a second wireless terminal with a level of service; and
a transmitter for transmitting to a third wireless terminal an indication that said third wireless terminal should be able to communicate with said second wireless terminal with said level of service at said location.

27. (original) The apparatus of claim 26 wherein said first wireless terminal and said third wireless terminal are different.

28. (original) The apparatus of claim 26 further comprising a display for displaying said indication.

29. (original) The apparatus of claim 28 wherein displaying said indication occurs in the form of a graphical map, wherein said graphical map portrays said location.

30. (original) The apparatus of claim 26 wherein said level of service is in terms of at least one of (i) throughput, (ii) error rate, and (iii) latency.

31. (original) The apparatus of claim 26 wherein said second wireless terminal is an IEEE 802.11 access point.

32. (original) An apparatus comprising:
a receiver for receiving from a first wireless terminal a measurement of a characteristic of an electromagnetic signal radiated by a source, wherein said measurement is associated with a location; and

a transmitter for transmitting to a second wireless terminal an indication that said second wireless terminal should be able to receive at said location said electromagnetic signal with said measurement exceeding a threshold.

33. (original) The apparatus of claim 32 wherein said first wireless terminal and said second wireless terminal are different.

34. (original) The apparatus of claim 32 wherein said electromagnetic signal conveys a data block.

35. (original) The apparatus of claim 34 wherein said source is an IEEE 802.11 access point and said data block constitutes a beacon frame.

36. (original) The apparatus of claim 32 wherein said indication constitutes a set of displayable information, wherein said set of displayable information comprises said location.

37. (original) The apparatus of claim 36 further comprising a display at said second wireless terminal for displaying said set of displayable information.

38. (original) The apparatus of claim 36 wherein said set of displayable information is in the form of a graphical map, wherein the size of said set of displayable information is dependent on said second wireless terminal.

39. (original) The apparatus of claim 32 wherein said characteristic is one of (i) throughput, (ii) error rate, (iii) latency, and (iv) signal strength.

Evidence Appendix

There is no evidence submitted pursuant to 37 CFR §§ 1.130, 1.131, or 1.132.

Related Proceedings Appendix

There are no related proceedings.